

DISCUSSION OF THE AMENDMENT

Due to the length of the specification herein, Applicants will cite to the paragraph number of the published patent application (PG Pub) of the present application, i.e., US 2005/0148753, when discussing the application description, both in this section and in the Remarks section, *infra*, rather than to page and line of the specification as filed.

The specification has been amended by deleting reference to Claim 1 (since claims are subject to change), by deleting the superfluous heading "Example 8," and by deleting superfluous matter in the description of this example.

Claim 1 has been amended by incorporating the subject matter of part of Claim 4 therein; by inserting that the crosslinked polyurethane is --obtained by reacting components of a composition--, as supported in the specification at paragraph [0187]; by inserting a triisocyanate limitation for component D), as supported in the specification at paragraph [0145]; by inserting that component E) may be, in effect, more than one compound, as supported in the specification at paragraph [0150]; and by inserting a Markush group for component E), as supported in the specification at paragraphs [0147]-[0167].

Claims containing a broad range or limitation together with a narrow range or limitation have been amended to avoid such combination of ranges or limitations.

New Claims 11-14 have been added to claim subject matter deleted by the above-discussed amendment.

New Claims 15-20 have been added. Claim 15 is supported in the specification at paragraph [0145]. Claims 16-18 are supported in the specification at paragraph [0187]. Claims 19 and 20 are supported in the specification at paragraph [0191].

No matter is believed to have been added by the above amendment. Claims 1-20 are now pending in the application.

REMARKS

The rejection of Claims 1-3, 5 and 7-10 under 35 U.S.C. § 102(b) as anticipated by US 4,992,507 (Coogan et al), is respectfully traversed. All the claims now contain the limitations of at least part of Claim 4, not subject to this rejection. Accordingly, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 1, 4 and 6 under 35 U.S.C. § 103(a) as unpatentable over Coogan et al in view of US 6,566,438 (Ingrisch et al), is respectfully traversed.

Coogan et al discloses a free acid group-containing water-dispersible polyurethane which is the reaction product of: (A) a nonionic-water-dispersible, isocyanate-terminated polyurethane prepolymer formed by reacting: (i) an organic polyisocyanate; (ii) at least one organic polyol having a molecular weight in the range of 62 to 6000; (iii) a dispersing diol and/or diisocyanate having a pendant polyoxyethylene chain; and (iv) an isocyanate-reactive compound containing at least one carboxylic acid group and at least two groups which are more reactive than carboxylic acid groups toward isocyanate groups; and (B) an active hydrogen containing chain extender (column 2, lines 37-51). Coogan et al also discloses a free tertiary amino group-containing water-dispersible polyurethane, which is the reaction product of the above-described components, except that component (iv) is omitted, and at least one polyol (ii) and/or chain extender (B) contains a free tertiary amino group (column 2, lines 52-64). The Examiner particularly relies on Example 20 therein.

In reply, while some of the presently-recited components may overlap with some of the components of Coogan et al, Coogan et al does not disclose the particular combination of reactive components A)-E), and in the presently-recited amounts. Nor is the presently-claimed invention suggested by Coogan et al. In addition, the crosslinked nature of Coogan et al's free acid group-containing water-dispersible polyurethane and free tertiary amino group-containing water-dispersible polyurethane is not clear, in view of the further disclosure

of reacting the free acid groups and free tertiary amino groups with crosslinking agents (column 8, line 12ff and 42ff).

Ingrisch et al is drawn to a hybrid urethane polymer dispersion having a particular composition (column 1, line 60 through column 3, line 45). The Examiner finds that Example 20 of Coogan et al does not disclose a compound analogous to presently-recited component C) in the presently-recited amounts; rather, that analogous compound in Example 20, i.e., N-methyldiethanolamine, is present in an amount of 2.8%. Ingrisch et al discloses their component (A)(iii) is present preferably in an amount of 0.5 to 3% by weight, and that an example of said component is dimethylolpropionic acid (column 5, lines 1-20), and that their neutralizing component (D) is preferably present in an amount of 0.15 to 1.5% by weight, which component may be N-methyl-diethanolamine (column 6, lines 25-32). The Examiner finds that it would have been obvious to substitute **presumably** the N-methyldiethanolamine in Example 20 of Coogan et al with the combination of dimethylolpropionic acid and N-methyl-diethanolamine of Ingrisch et al. However, if that substitution were made, the total amount would be 4.5% by weight, or less than the presently-recited minimum of 8% by weight. More fundamentally, Coogan et al and Ingrisch et al, now matter how combined, neither disclose nor suggest the presently-claimed invention.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 1-10 under 35 U.S.C. § 102(e) as anticipated by US 6,524,564 (Kim et al), is respectfully traversed.

(Applicants note that Kim et al was published as WO 00/12588 on March 9, 2000.)

Kim et al discloses, *inter alia*, (1) free-radically polymerizable, siloxane-containing urethane (meth)acrylates which comprise, in incorporated form, a) at least one compound which contains at least one active hydrogen atom and at least one free-radically polymerizable α,β -ethylenically unsaturated double bond per molecule, b) at least one

diisocyanate, c) at least one compound which contains two active hydrogen atoms per molecule, d) at least one compound which contains at least one active hydrogen atom and at least one siloxane group per molecule; and (2) water-soluble or water-dispersible polymers which comprise these urethane (meth)acrylates in copolymerized form (Abstract). The urethane (meth)acrylates of Kim et al are not crosslinked polyurethanes *per se*. The above-mentioned polymers within the scope of Kim et al are water-soluble or water-dispersible polymers obtained by copolymerizing at least one of the inventive urethane (meth)acrylates and at least one free-radically polymerizable α,β -ethylenically unsaturated monomer M (column 14, line 46ff). It is simply impossible to obtain the presently-recited crosslinked polyurethane by reaction of the recited components by first reacting only some of the components to form a urethane (meth)acrylate followed by copolymerizable with monomer M. That in and of itself should be sufficient to overcome Kim et al. In addition, while the Examiner relies on Kim et al's disclosure of triols or triamines for their component c), they may be present only up to 3 mol% of component c) (column 6, lines 15-16). Furthermore, Kim et al's component a) requires at least one free-radically polymerizable $\alpha\text{-}\beta$ -ethylenically unsaturated double bond per molecule (column 4, lines 13-16). No corresponding component appears in the present claims.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 1-2 and 6 on the ground of nonstatutory obviousness-type double patenting over Claims 1-3 and 8 of Kim et al, is respectfully traversed. The disclosures and deficiencies of Kim et al have been discussed above. The claims of Kim et al are no more pertinent than its disclosure. In addition, the present claims now contain the limitations of at least part of Claim 4, not subject to this rejection. Accordingly, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 2 and 4-6 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Indeed, the rejection would now appear to be moot in view of the above-discussed amendment. Accordingly, it is respectfully requested that the rejection be withdrawn.

Applicants respectfully traverse the Examiner's lining-out of documents AP and AU on the Form PTO-1449 originally submitted with the Information Disclosure Statement (IDS) filed December 22, 2004, and lining-out document AU on the Form PTO-1449 originally submitted with the IDS filed September 22, 2004. As stated in the Statement of Relevancy included with the IDS filed December 22, 2004, documents AP and AU are discussed in the specification. Similarly, as stated in the Statement of Relevancy included with the IDS filed September 22, 2004, document AU is discussed in the specification. According to M.P.E.P. § 609.04(a)(III), such discussion complies with the requirements for concise explanation of relevance for non-English language information. **Submitted herewith** are copies of the above-discussed original Form PTO-1449s. The Examiner is respectfully requested to initial each in the appropriate boxes, and include a copy of the initialed Forms with the next Office communication.

All of the presently-pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

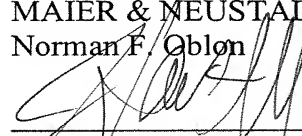
Respectfully submitted,

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

NFO:HAP\

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Harris A. Pitlick
Registration No. 38,779

Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

258177US0PCT

SERIAL NO.

10/508,764

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Son NGUYEN-KIM, et al.

FILING DATE

September 22, 2004

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AM	2 150 557	06/08/72	DE (equivalent of US 3836537)		NO
	AN	28 17 369	10/26/78	DE (equivalent of US 4324780 & US 4237253)		NO
	AO	37 08 451	10/06/88	DE (equivalent of US 4814101)		NO
	AP	39 29 973	03/14/91	DE		NO
	AQ	42 25 045	02/03/94	DE (equivalent of US 6372876)		NO
	AR	42 41 118	06/09/94	DE (equivalent of US 6335003)		NO
	AS	0227816	07/08/87	EP (English abstract only & equivalent of US 4690683 & WO 8700042)		NO
	AT	97 32917	09/12/97	WO (equivalent of US 5981681 & US 5807956)		NO

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AU	FIKENTSCHER, Von H. "Systematik der Cellulosen auf Grund ihrer Viskositäet in Loesung", Cellulose-Chemie, vol. 13, pages 58-64 1932
	AV	
	AW	
	AX	

☐ Additional References sheet(s) attached

Examiner

Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

258177US0PCT

SERIAL NO.

New U.S. PCT Application
Based on PCT/EP03/03430

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Son NGUYEN-KIM, et al.

FILING DATE

Herewith

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	6 046 295	04/04/00	Kurt C. FRISCH, Jr., et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
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FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	938 889	09/01/99	EP(equivalent of US 6277386)		NO
	AP	994 136	04/19/00	EP(equivalent of US 6284836)		NO
	AQ	619 111	10/12/94	EP		NO
	AR	02/24777	03/28/02	WO		NO
	AS	656 021	10/01/97	EP(equivalent of US 6372876)		NO
	AT	672 076	10/22/97	EP(equivalent of US 6335003)		NO
	AU	01/16200	03/08/01	WO		NO
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	<input type="checkbox"/> Additional References sheet(s) attached

Examiner

Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.